UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,554	07/23/2001	Lance E. Hacking	42390P12242	4419

7590   11/20/2003

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EXAMINER
KENDALL, CHUCK O

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/911,554	HACKING ET AL.
	Examiner	Art Unit
	Chuck O Kendall	2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed 07/23/01.

2. Claims 1-27 have been examined.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5, and 9 –24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Barritz et al. USPN 6,519,766 in view of Lanning USPN 5,787,285.

Regarding claim 1, Barritz disclose a method comprising: obtaining performance

data on multiple programs that run on at least one system, the performance data

including a first system profile for each program, the performance data obtained from a

tool (Col. 4 lines 32-38). Barritz doesn't explicitly automatically sorting the performance

data for each profile to allow for comparison between profiles. However Lanning does

disclose this feature (Col. 8 lines 65, to Col. 9 lines 10). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to combine

Barritz and Lanning because, being able to compare gathered information makes

performance analyzing more efficient.

Regarding claim 2, the method of claim 1 further comprising:

obtaining performance data on multiple programs that run on a second system,

the performance data including a second system profile for each program obtained

from the tool (51:50-55); and automatically sorting the performance data for each profile to allow for comparison between profiles (Lanning, Col. 8 lines 65, to Col. 9 lines 10).

Regarding claim 3, the method of claim 2 further comprising comparing the performance data of the first system with the second system (Lanning, Col. 8 lines 65, to Col. 9 lines 10, see comparing profile information for different environments).

Regarding claim 4, the method of claim 3 further comprising:
obtaining additional performance data for both systems using the tool (Barritz, Col. 9 lines 24- 30).

automatically sorting the additional performance data of both systems (Barritz, Col. 9 lines 24- 30, see specific to event).
; and comparing the additional performance data of the first system with the second system (Lanning, Col. 8 lines 65, to Col. 9 lines 10).

Regarding claims 5 and 12, the method of claim 1 wherein obtaining performance data on a number of programs that run on a system comprises: collecting data on multiple programs run on a system during a sampling period based on performance counters (Barritz, 10:25-30, also see12: 40-45) ; and transferring the data to a file(9:25-30, see write to file).

Regarding claims 9 and 11, Barritz disclose all the claimed limitations as applied in claim 1.   Barritz doesn't explicitly dividing an address range of each program into a number bins and listing the performance data for each bin according to specified criteria. However, Lanning does disclose these features (Lanning, see segments for bins (3:23-27), also see Lanning, 4:55-67, for criteria see P1 and P2).   Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barritz and Lanning because, being dividing programs into divisions or segments " increases maintainability and reliability of executable code, since optimization provides software programs which are well partitioned and functionally organized".

Regarding claim 10, the method of claim 9 wherein the specified criteria is time – based (Barritz, 9:24-25).

Regarding claim 13, the method of claim 1 further comprising displaying the sorted information on a display (Barritz, figure 1, 108, displays information).

Regarding claim 14, the method of claim 1 wherein the performance data profiles include central processing unit (CPU) event measurements (Barritz, 42:10-15).

Regarding claim 15, the method of claim 1 wherein the system is a processor (Barritz, 42:10-15).

Regarding claim 16, Examiner is applying the same rationale to claim, which is the machine-readable version of the method claim as discussed in claim 1 above.

Regarding claim 17, Examiner is applying the same rationale to claim, which is the machine-readable version of the method claim as discussed in claim 14 above.

Regarding claim 18, Examiner is applying the same rationale to claim, which is the machine-readable version of the method claim as discussed in claim 15 above.

Regarding claim 19, Examiner is applying the same rationale to claim, which is the system version of the method claim as discussed in claim 1 above.

Regarding claim 20, the system of claim 19 further comprising a comparator to compare the profiles (Lanning, Col. 8 lines 65, to Col. 9 lines 10, see comparing profile information for different environments).

Regarding claim 21, Examiner is applying the same rationale to claim, which is the system version of the machine-readable storage medium as discussed in claim 13 above.

Regarding claim 22, Examiner is applying the same rationale to claim, which is the system version of the machine-readable storage medium as discussed in claim 17 above.

Regarding claim 23, Examiner is applying the same rationale to claim, which is the system version of the machine-readable storage medium as discussed in claim 18 above.

Regarding claim 24, Examiner is applying the same rationale to claim, which is the system version of the method claim as discussed in claim 5 above.

5. Claims 6, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barritz et al. USPN 6,519,766 as applied in claim 5, in view of Lanning USPN 5,787,285 and further in view of Adams USPN 5,465,258.

Regarding claim 6, Barritz as modified discloses all the claimed limitations as applied in claim 5 above. Barritz doesn't explicitly disclose wherein one performance counter is clock ticks. However Adams does disclose this feature (Col. 5 line 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barritz as modified by Lanning with Adams because, using clock ticks during counting ensures "absolute time from start of execution".

Regarding claim 25, Examiner is applying the same rationale to claim, which is the system version of the method claim as discussed in claim 6 above.

6. Claims 7, 8, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barritz et al. USPN 6,519,766, in view of Lanning USPN 5,787,285 and further in view of Adams USPN 5,465,258 as applied in claim 5, and further in view of Dean et al. USPN 6,070,009.

Regarding claim 7, Barritz as modified discloses the claimed limitations as applied in claim 5 above. Neither Barritz, nor Lanning, nor Adams explicitly disclose wherein one performance counter is retired instructions. However Dean does disclose this feature (6:45-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barritz as modified by Lanning and Adams with Dean because, tracking retired instructions makes maintaining resource more efficient.

Regarding claim 8, Barritz as modified discloses the claimed limitations as applied in claim 5 above. Neither Barritz, nor Lanning, nor Adams explicitly disclose wherein one performance counter is cache misses. However Dean does disclose this feature (6:45-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barritz as modified by Lanning and

Adams with Dean because, tracking cache misses helps to prevent stalling (Dean 4:20-35).

Regarding claim 26, Examiner is applying the same rationale to claim, which is the system version of the method claim as discussed in claim 7 above.

Regarding claim 27, Examiner is applying the same rationale to claim, which is the system version of the method claim as discussed in claim 8 above.

Correspondence Information

7.   Any inquires concerning this communication or earlier communications from the examiner should be directed to Chuck O. Kendall who may be reached via telephone at (703) 308-6608. The examiner can normally be reached Monday through Friday between 8:00 A.M. and 5:00 P.M. est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam *can be* reached at *(703) 305-4552.*
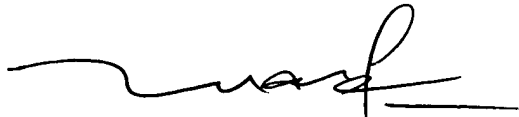
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is *(703) 305-3900.*

.   *For facsimile (fax) send to 703-7467239 official and 703-7467240 draft*

Chuck O. Kendall

Software Engineer Patent Examiner
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SUPERVISORY PATENT EXAMINER